50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Proposed Rule To Determine Neosho Madtom (Noturus Placidus) To Be a Threatened Species

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Service proposes to determine a fish, the Neosho madtom (*Noturus placidus*), to be a threatened species under the authority of the Endangered Species Act of 1973 (Act), as amended. The madtom is currently

known from the Neosho River (Grand River in Oklahoma) drainage, including the Neosho River in Kansas and Oklahoma, the Cottonwood River in Kansas and the Spring River in Missouri. Habitat destruction and modification, principally due to impoundments and dredging activities, has decreased the distribution and population of the species and isolated it into three populations. Increased water demand, pollution, and continued habitat destruction threatens the Neosho madtom. This proposal, if made final, would implement protection provided by the Act, make available conservation measures implemented by the Act, and identify the taxon as one in need of conservation to groups in and outside of the Federal Government. The Service is requesting data and comments from interested parties on this proposal.

DATES: Comments from all interested parties must be received by July 18, 1989. Public hearing requests must be received by July 3, 1989.

ADDRESSES: Comments and materials concerning this proposal should be sent to the State Supervisor, Fish and Wildlife Enhancement, 215 Southwind Place, Manhattan, Kansas 66502. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: L. Ronel Finley, State Supervisor, or Daniel W. Mulhern, Endangered Species Coordinator, at the above address, telephone (913) 539-3474.

SUPPLEMENTARY INFORMATION:

Background

Gilbert's (1886) collection of a *Noturus* specimen from the Neosho River near Emporia, Kansas, apparently is the first known record of the Neosho madtom (*Noturus placidus*). Two more specimens were taken from the Neosho River in Coffey County by the Kansas University Biological Survey in 1912 (Wagner et al. 1984). Additional collections were made in 1951 and 1952 in the Neosho River in Kansas and Oklahoma and also the Cottonwood River in Kansas (Taylor 1969; Wagner et al. 1984). Specimens of Neosho madtom were collected in the Spring River in Kansas in 1963 and in Missouri in 1964 (Wagner et al. 1984). The Cottonwood and Spring Rivers are part of the Neosho River drainage.

Specimens also were collected from near the mouth of the Illinois River in Sequoyah County, Oklahoma, in 1946 (Moore and Paden 1950). Subsequent collections in 1948 and 1950 confirmed the presence of Neosho madtom in the lower Illinois River (Wagner et al. 1984). These are the only recorded occurrences of this species outside of the Neosho River drainage. Moss (1981) later made collections at three historical sites on the Illinois River but found no Neosho madtoms. He concluded that hypolimnetic discharges from Tenkiller Ferry Dam may have produced temperatures that were too low for successful reproduction and growth of the species. It is believed that the species is extirpated from the lower Illinois River.

Sixty-eight percent of the recent (since 1970) collections of this species are from 21 locations in the Neosho River (Wagner et al. 1984). The most upstream location is in Lyon County, Kansas, and the most downstream is near Miami in extreme northern Ottawa County, Oklahoma, indicating the species is occupying at least the northern portion of its historic range. Although its original range included the entire Neosho (Grand) River drainage mainstreams, Moss (1981) was unable to locate specimens in suitable habitat between the reservoirs along this river in Oklahoma, indicating that reservoir construction has an adverse impact on Neosho madtom populations.

Records of Neosho madtom from the Cottonwood River are from 8 localities and 22 collections, with the confluence with Middle Creek near Elmdale, Chase County, Kansas, the most upstream locality. Collections made in 1983 along the Cottonwood River indicate that the species is relatively stable in this river (Wagner et al. 1984).

The distribution of this species in the Spring River is limited to only seven collections from three localities (Wagner et al. 1984, Moss 1981, Pflieger 1971, Branson et al. 1970). Collections from both Kansas and Missouri were taken very near the State line.

The current distribution of the Neosho madtom is restricted to the Neosho River drainage, including the Neosho River in Kansas (Lyon, Coffey, Woodson, Allen, Neosho, Labette, and Cherokee Counties) and Oklahoma (Ottawa County), the Cottonwood River in Kansas (Lyon and Chase Counties), and the Spring River in Missouri (Jasper County) and Kansas (Cherokee County). Wagner et al. (1984) estimates that habitat loss through reservoir construction has eliminated as much as one-third of the original range of this species.

The Neosho madtom is small, with adults averaging less than 3 inches long. It is characterized by having a midcaudal brownish stripe of pigment and a relatively deep body. The humeral process is moderately long, with somewhat reduced serrations of the pectoral spine. The adipose fin is well connected with the caudal fin. The mottled skin pigment readily distinguishes this species from other congenerics found within its range (Taylor 1969).

The species is almost exclusively found in riffles (Cross and Collins 1975, Deacon 1961), but exceptions to this generalization may be observed during early life stages and during spawning periods. Moss (1981) found that the Neosho madtom demonstrates a strong selection for small gravel substrates, usually less than 1 inch in diameter, and are only abundant on riffles with ⅜ to ⅝-inch gravel prevalent. The substrate must be loosely packed so the madtoms can "wriggle" down into the gravel.

Adults utilize moderate to swift currents, while juveniles are most often found in areas of low current. Juveniles are found in depths from 4 to 39 inches, while adults tend to use depths less than 12 inches (Moss 1981). Wagner et al. (1984) found that habitat use appeared to be very specific, and suitable habitat was easy to identify. Moss (1981) speculated that spawning occurs in late June and July and that madtoms feed primarily on aquatic insects.

On two occasions in the recent past, Neosho madtom populations have suffered severe reductions. A drought in 1952–56 depleted Kansas population levels, but the species subsequently returned to earlier levels of abundance (Deacon 1961). A second reduction was documented in 1967 when Cross and Braasch (1968) found the species absent from all their sample stations, which were in the Neosho River and at the confluence of the Cottonwood River and the South Fork of the Cottonwood River. The species was locally abundant at these same stations in 1951 and 1952. Cross and Braasch (1968) attributed the decline to numerous fish kills in 1966 and 1967 caused by runoff from cattle feedlots, as well as destruction of habitat by gravel dredgers. Pollution laws regulating feedlot runoff were passed in 1967, and stream depositization has replaced the gravel substrate at these locations. Collections made by Moss (1981) in these areas indicate that the species' population has returned to earlier levels of abundance.

Dredging for sand and gravel, a common practice in the Neosho River drainage, may have drastic short-term effects, but over a longer time period, the species may be able to recover due to the natural depositional process that takes place after the disturbance ceases (Wagner et al. 1984). Reservoir construction is a major threat to the species (Moss 1981). No specimens have been collected from five reservoirs constructed within the species' range, and habitat inundation is assumed to have caused local extirpation. The lower

section of the Neosho River in Oklahoma is a series of reservoirs that has eliminated as much as one-third of the original range of the species (Wagner et al. 1984). Efforts to capture specimens in suitable habitat between the Oklahoma reservoirs have been unsuccessful (Moss 1981).

On December 30, 1982, the Service announced in the Federal Register (47 FR 58454) that the Neosho madtom, along with 146 other fish species, was being considered for addition to the List of Endangered and Threatened Wildlife. Under contract with the Service, a status report on the Neosho madtom was prepared by the Oklahoma Cooperative Fishery Research Unit (Wagner et al. 1984). The species was included in the Service's September 18, 1985, Notice of Review of Vertebrate Wildlife (50 FR 37958) as a category 1 species, indicating that the Service has substantial biological data to support a proposal to list the species as endangered or threatened.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR Part 424) promulgated to implement the listing provisions of the Act set forth in the procedures for adding species to the Federal Lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to the Neosho madtom (*Noturus placidus*) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Habitat modification, both existing and potential, comprises the major threat to the survival of the Neosho madtom. Deacon et al. (1979) recognized the species as threatened because of present or potential threats to its habitat or range. Such modification includes, among other things, water diversion, impoundment, reallocation, channelization, flood control, water pollution, and dredging for sand and gravel. This modification has resulted in the complete destruction or curtailment of a portion of the historic habitat and modification of much of the remaining habitat. Wagner et al. (1984) estimates that one-third of the historic habitat of the Neosho madtom has been lost already.

The construction of reservoirs causes the inundation of riffle habitat and changes turbidity, nutrient levels, and water temperatures downstream. No specimens have been captured in a reservoir, and habitat inundation is assumed to have caused local extirpation of the species (Moss 1981; Wagner et al. 1984).

Efforts to capture specimens in suitable habitat between reservoirs in Oklahoma have been unsuccessful (Moss 1981). The lower section of the Neosho (Grand) River in Oklahoma is a series of reservoirs that have eliminated as much as one-third of the original range of the species (Wagner et al. 1984). The disappearance of Neosho madtoms from the lower Illinois River in Oklahoma is attributed to hypolimnetic discharges from Tenkiller Ferry Dam which produced temperatures that were too low for successful reproduction and growth of the species (Moss 1981). The construction of John Redmond Reservoir on the Neosho River in Kansas destroyed additional riffle habitat.

The increasing demand for water for agricultural and municipal use will continue, with a projected increase in demand of 25 percent over the next 50 years in the Neosho River Basin (Kansas Water Office 1987), further impacting madtom habitat. An example of the effects of a decrease in flow occurred during the drought of 1952–1956 when the Neosho River was completely devoid of flowing water for several months. The species suffered a dramatic decline and did not become common again until the third consecutive summer of continuous flow (Deacon 1961).

The Soil Conservation Service, U.S. Department of Agriculture, has proposed a project to construct as many as 11 small dams within the South Fork watershed of the Cottonwood River. Additionally, the U.S. Army Corps of Engineers (Corps) is investigating the possibility of constructing up to 112 small dams within the Cottonwood and Upper Neosho River watersheds. The Corps is also investigating the possibility of reallocating storage in existing Federal reservoirs in the Neosho River basin. All of these projects have the potential to alter and/or reduce flows within the madtom's habitat. The Wolf Creek Nuclear Generating Station, near Burlington, Kansas, uses water from John Redmond Reservoir. To meet the station's legal water allocation, the elevation of the conservation pool will have to be increased in the future, further depleting flows in the Neosho River.

The Spring River drainage in Kansas and Missouri is rich in lead, zinc, and coal reserves; development of these resources has been extensive and can be expected to continue. Documented effects include stream pollution and water depletions (Spruill 1984). The lower Spring River in Missouri has also been polluted by sewage and industrial effluents (Dieffenbach and Ryck 1976). Additionally, the Neosho River flows through numerous oil fields in southeastern Kansas, presenting the threat of oil spills into the river. Cross (personal communication) believes that runoff from livestock feedlots is still a potential threat to the species.

Sand and gravel dredging has been demonstrated to affect fish communities in the lower Kansas River, with the extent of the effects being dependent on the age and location of the dredging site (Cross et al. 1982). The short-term effects on the Neosho madtom of dredging activities in streams utilized by the species may be drastic, but over a longer time period the species may be able to recover if the situation is not compounded by additional threats.

B. *Overutilization of commercial, recreational, scientific, or education purposes.* There is no evidence to suggest overutilization of the Neosho madtom for any of these purposes.

C. *Disease or predation.* There is no evidence of threats to the Neosho madtom from disease. Efforts to improve the sport fishery in the State have resulted in an increase in such predators as white bass (*Morone chrysops*) and walleye (*Stizostedion vitreum*) in most reservoirs, and it is likely these predators have also increased in the associated rivers. It is not known whether predation on Neosho madtom has increased.

It is unknown what role interspecific competition may play in determining Neosho madtom abundance. Where the species occurs along with the slender madtom (*Noturus exilis*) in the Spring River, *N. exilis* is generally found in habitat typically occupied by *N. placidus*, with *N. placidus* found in more marginal habitat (Frank Cross, personal communication). the slender madtom is not common in the Neosho or Cottonwood Rivers where the Neosho madtom is most abundant.

D. *The inadequacy of existing regulatory mechanisms.* The Neosho madtom is officially listed as threatened by the State of Kansas, and endangered by the States of Oklahoma and Missouri. All three States prohibit taking this fish without a State permit. The Kansas Department of Wildlife and Parks has designated portions of the Cottonwood, Neosho, and Spring Rivers as critical habitat for the Neosho madtom. The Department also requires a permit for public actions in Kansas which have the potential to destroy individuals of an endangered or threatened species of the critical habitat. Activities subject to such

permits include publicly funded or State of federally assisted actions, or any action requiring a permit from any other State or Federal agency. However, the penalty for violating a Kansas permit for a threatened species is only a maximum fine of $500 and/or 30 days in jail, which is probably not sufficient to deter adverse actions from occurring for large projects. Federal actions are not subject to the State law unless specifically provided by Congress. Thus, it appears that in some cases the existing regulatory mechanisms are inadequate to protect the Neosho madtom. Federal listing would provide additional protection by requiring Federal permits for taking the fish and by requiring Federal agencies to consult with the Service when projects they fund, authorize, or carry out may affect the species

E. *Other natural or manmade factors affecting its continued existence.* The Neosho madtom has recently exhibited severe population declines due to pollution and drought (Deacon 1961; Cross and Braasch 1968). While drought is a natural phenomenon, the effects of drought are intensified by human degradation. The species occupies a very specialized macrohabitat, and its range has significantly decreased in the last 20 years. The species' range is now divided into three populations: In the Neosho and Cottonwood Rivers above John Redmond Reservoir in Kansas, the Neosho River below John Redmond Dam in Kansas and Oklahoma, and the Spring River in Kansas and Missouri. The unlikelihood of individual interchange between populations intensifies the problems of repopulation following rapid declines.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to propose this rule. Based on this evaluation, the preferred action is to list the Neosho madtom as a threatened species. The original range of the species has decreased to three populations in three rivers. The factors which brought the species to this condition are still threatening it. Because the species remains abundant in some locations, it is unlikely the species will become extinct in the foreseeable future. Therefore, endangered status is considered inappropriate. For reasons given below, it is not considered prudent to propose designation of critical habitat.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary designate any habitat of a species which is considered to be critical habitat at the time the species is determined to be endangered or threatened. The Service finds that determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for this species at this time. Although intentional taking of the Neosho madtom is presently not known to be a problem, the species could be vulnerable to this threat. The fish is found in very specialized, easily identifiable habitat. Most of the inhabited stream reaches are easily accessible by road, making it very easy for someone to intentionally poison them. The Service believes that no benefit to the species can be identified that would outweigh the potential threats of vandalism which might be exacerbated by the publication of a detailed critical habitat description and maps. All the involved agencies will be informed of the location of the populations of the Neosho madtom and the importance of protecting this species' habitat. No further notification benefits would accrue from designating critical habitat. Protection of the species' habitat and its proper management will be addressed through the recovery process and through seciton 7 consultations. Therefore, it would not be prudent to determine critical habitat for the Neosho madtom at this time.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States, and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402. Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) requires Federal agencies to insure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may adversely affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

Federal involvement is expected to include U.S. Soil Conservation Service water retention practices and U.S. Army Corps of Engineers stream modification practices. The Soil Conservation Service conducts water retention projects within the watersheds of the three river systems sustaining the madtom. The Corps of Engineers conducts activities and issues permits to applicants for activities such as impoundment, channelization, flood control, and dredging. The above agencies may be required to consult with the Service on such activities to insure that they are not likely to jeopardize the continued existence of this species.

The Act and implementing regulations found at 50 CFR 17.21 and 17.31 set forth a series of general prohibitions and exceptions that apply to all threatened wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take, import or export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions would apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving threatened wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22, 17.23, and 17.32. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful activities. For threatened species, there are also permits for zoological exhibition, educational purposes, or special purposes consistent with the purposes of the Act. In some instances, permits may be issued during a specified period of time to relieve undue economic

hardship that would be suffered if such relief were not available.

Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, any comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning any aspect of this proposal are hereby solicited. Comments particularly are sought concerning:

(1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to the Neosho madtom;

(2) The location of any additional populations of this species and the reasons why any habitat should or should not be determined to be critical habitat as provided by Section 4 of the Act;

(3) Additional information concerning the range and distribution of this species; and

(4) Current or planned activities in the subject area and their possible impacts on this species.

Final promulgation of the regulation on the Neosho madtom will take into consideration the comments and any additional information received by the Service, and such communications may lead to adoption of a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be filed within 45 days of the date of the proposal. Such requests must be made in writing and addressed to the State Supervisor, Fish and Wildlife Enhancement, Manhattan, Kansas (see **ADDRESSES** above).

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy of 1969, need not be prepared in connection with regulations adopted pursuant to Section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

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Author

The primary author of this proposed rule is Daniel W. Mulhern, Fish and Wildlife Enhancement, Manhattan, Kansas (913/539–3474, see **ADDRESSES** above).

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Proposed Regulation Promulgation

PART 17—[AMENDED]

Accordingly, it is hereby proposed to amend Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, as set forth below:

1. The authority citation for Part 17 continues to read as follows:

Authority: Pub. L. 93–205, 87 Stat. 884; Pub. L. 94–359, 90 Stat. 911; Pub. L. 95–632, 92 Stat. 3751; Pub. L. 96–159, 93 Stat. 1225; Pub. L. 97–304, 96 Stat. 1411; Pub. L. 100–478, 102 Stat. 2306; Pub. L. 100–653, 102 Stat. 3825 (16 U.S.C. 1531 *et seq.*); Pub. L. 99–625, 100 Stat. 3500, unless otherwise noted.

2. It is proposed to amend § 17.12(h) by adding the following, in alphabetic order, under "FISHES", to the list of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened plants.

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(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Fishes:							
Madtom, Neosho	*Noturus placidus*	U.S.A. (KS, MO, OK)	Entire	T		NA	NA

Dated: March 22, 1989.

Susan Recce Lamson,

Acting Assistant Secretary for Fish and Wildlife and Parks.

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